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PJ

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/210,540 12/14/98 NAKAYAMA

H P982413

EXAMINER

026263 MM91/0626
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KANG, D

ART UNIT

PAPER NUMBER

2811

DATE MAILED:

06/26/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Advisory Action

Application No.

09/210,540

Examiner

Donghee Kang

Applicant(s)

NAKAYAMA, HAJIME

Art Unit

2811

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 08 June 2001 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE. Therefore, further action by the applicant is required to avoid abandonment of this application. A proper reply to a final rejection under 37 CFR 1.113 may only be either: (1) a timely filed amendment which places the application in condition for allowance; (2) a timely filed Notice of Appeal (with appeal fee); or (3) a timely filed Request for Continued Examination (RCE) in compliance with 37 CFR 1.114.

PERIOD FOR REPLY [check only a) or b)]

- a) ☒ The period for reply expires 3 months from the mailing date of the final rejection.
- b) ☐ In view of the early submission of the proposed reply (within two months as set forth in MPEP § 706.07 (f)), the period for reply expires on the mailing date of this Advisory Action, OR continues to run from the mailing date of the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

1. ☐ A Notice of Appeal was filed on _____. Appellant's Brief must be filed within the period set forth in 37 CFR 1.192(a), or any extension thereof (37 CFR 1.191(d)), to avoid dismissal of the appeal.
2. ☒ The proposed amendment(s) will be entered upon the timely submission of a Notice of Appeal and Appeal Brief with requisite fees.
3. ☐ The proposed amendment(s) will not be entered because:
- (a) ☐ they raise new issues that would require further consideration and/or search. (see NOTE below);
 - (b) ☐ they raise the issue of new matter. (see Note below);
 - (c) ☐ they are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
 - (d) ☐ they present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: _____

4. ☐ Applicant's reply has overcome the following rejection(s): _____.
5. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
6. ☒ The a) ☐ affidavit, b) ☐ exhibit, or c) ☒ request for reconsideration has been considered but does NOT place the application in condition for allowance because: See attachment.
7. ☐ The affidavit or exhibit will NOT be considered because it is not directed SOLELY to issues which were newly raised by the Examiner in the final rejection.
8. ☒ For purposes of Appeal, the status of the claim(s) is as follows (see attached written explanation, if any):
- Claim(s) allowed: None.
- Claim(s) objected to: None.
- Claim(s) rejected: 1 and 3-11.
- Claim(s) withdrawn from consideration: 2.
9. ☐ The proposed drawing correction filed on _____ a) ☐ has b) ☐ has not been approved by the Examiner.
10. ☐ Note the attached Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____.
11. ☒ Other: Claims 1 and 3-12 remain rejected as set forth in the final rejection (See Paper No. 7)

Tom Thom
TOM THOMAS
SUPERVISORY PATENT EXAMINER

DETAILED ACTION

Acknowledgement

1. Claim 2 has been cancelled. Therefore, Claims 1 and 3 -11 are pending.

Response to Arguments

2. Applicant argues that it is improper to combine the reference as suggested by the Examiner because Jung (US 5,856,215) fails to disclose semiconductor device having first and second impurity storage regions.

3. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, shortening the distance between PMOS and NMOS will reduce the chip area and provide a high density of device.

The main invention of this application is to shorten the distance between the PMOS and NMOS to further reduce the chip area (page 4, lines 19-21 in specification) rather than forming impurity storage regions. APA teaches in Fig.2 semiconductor device having a impurity storage region in which prevents an impurities diffusion. With respect to combining the teaching of Jung with APA (Fig.2), Jung teaches that the first and second gate electrode have portions (12' & 22') connected to an end of gate

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electrodes (12 & 22) and arranged in a direction different from the direction of arrangement of first and second gate electrodes. This arrangement of impurity doped region shortens the distance between NMOS and PMOS and further reduces the chip area.

4. Applicant argues that it is improper to combine the reference as suggested by the Examiner because Joyner et al. (US 6,114,741) fails to disclose semiconductor device having first and second impurity storage regions.

5. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, forming trench isolation region provides isolation between adjacent device regions.

APA teaches in Fig.2 semiconductor device having a impurity storage region in which prevents an impurities diffusion and also comprising an isolation region formed a boundary between first (101) and second (102) element formation regions to provide the separation between two element formation regions (101 & 102). APA does not explicitly teach the isolation region is buried in a trench. With respect to combining the teaching

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of Joyer et al with APA (Fig.2), Joyner clearly shows trench isolation region to provide a separation between adjacent device region.

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Donghee Kang whose telephone number is 703-305-9147. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Thomas can be reached on 703-308-2772. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7724 for regular communications and 703-308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

Donghee Kang, Ph.D.
June 23, 2001


TOM THOMAS
SUPERVISORY PATENT EXAMINER